PowerScan™ M8300 Readers

Quick Reference Guide

August 16, 2011
PN 8000169.B

ISO 9001 Certified
Quality Management System

PATENTS

This product is covered by one or more of the following patents:

Design Pat. AU 310201; AU 310202; CN 693980; CN735959; HK 0602013.5M001; HK 0602013.5M002; JP 1305693; KR 30-0460940; USD570,843 S; USD588,596 S.

US Pat. 5,992,740; 6,305,606 B1; 6,517,003; 6,808,114 B1; 6,997,385 B2; 7,387,246 B2; 5,367,151; 5,449,893; 5,545,889; 6,098,877; 6,220,514 B1; 6,412,698 B2; 6,607,132 B1; 6,817,529 B2; 6,834,805 B2; 7,948,214 B2.

European Pat. 789,315 B1; 895,175 B1; 1,128,314 B1; 1,128,315 B1; 1,396,811 B1; 1,413,971 B1; 1,816,585 B1; 1,942,442 B1.

Additional patents pending.

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Updates And Language Availability

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I

Su Internet sono disponibili le versioni aggiornate di driver e documentazione di questo prodotto. Questo manuale è disponibile anche nella versione italiana. Collegarsi a: www.psion.com

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En Internet están disponibles las versiones actualizadas de los drivers y documentación de este producto. También está disponible la versión en español de este manual. Dirección Internet : www.psion.com

Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC & Waste Batteries Directive 2006/66/EC

This Product, and its accessories, comply with the requirements of the Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC. The batteries used in this Product comply with the requirements of Directive 2006/66/EC.

If your end-of-life Psion product, battery or accessory carries a label as shown here, please contact your local country representative for details on how to arrange recycling. For a list of international subsidiaries, please go to:

http://www.psion.com/environmental-compliance.htm

Restriction on Hazardous Substances (RoHS) Directive 2002/95/EC

What is RoHS?

The European Union has mandated that high environmental standards be met in the design and manufacture of electronic and electrical products sold in Europe, to reduce hazardous substances from entering the environment. The "Restriction on Hazardous Substances Directive (RoHS)" prescribes the maximum trace levels of lead, cadmium, mercury, hexavalent chromium, and flame retardants PBB and PBDE that may be contained in a product. Only products meeting these high environmental standards may be "placed on the market" in EU member states after July 1, 2006.

RoHS✓ **RoHS Logo**

Although there is no legal requirement to mark RoHS-compliant products, Psion Inc. indicates its compliance with the directive as follows:

The RoHS logo located either on the back of the product or underneath the battery in the battery compartment (or on a related accessory such as the charger or docking station) signifies that the product is RoHS-compliant as per the EU directive. Other than as noted below, a Psion product that does not have an accompanying RoHS logo signifies that it was placed on the EU market prior to July 1, 2006, and is thereby exempt from the directive.

Note: Not all accessories or peripherals will have a RoHS logo due to physical space limitations or as a result of their exempt status.

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http://www.psion.com/documents/com/quickReferenceGuides/Help_Desk_Contact_Numbers_A4.pdf

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NOTES

Using PowerScan™ M8300

The PowerScan™ M8300 series readers can be used with either a BC-80X0 cradle or Stargate™ radio base station to build a Cordless Reading System for the collection, decoding and transmission of barcoded data.

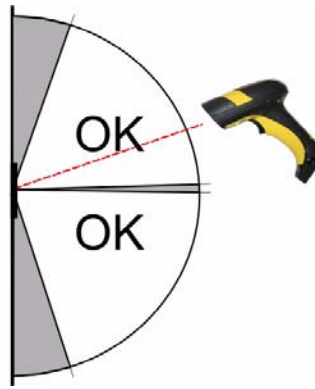
PowerScan™ M8300 laser readers automatically scan barcodes at a distance. Simply aim and pull the trigger.

Scan Line Position

Code scanning is performed along the scan line emitted from the reading window. This line must cross the entire code. The best reading angles are indicated in the figure below:

Reading Angle

Successful scanning is obtained by tilting the reader with respect to the barcode to avoid direct reflections that impair the reading performance, see the figure below.



Aiming System

PowerScan™ M8300 provides an aiming system. If enabled, a partial trigger press produces a red spot, which should be aimed over the code center to get the best reading performance, see figure (1) above. By completely pressing the trigger, the scan line appears to start the code scanning (2).

After setting up the reader, you can enable or disable the aiming system by reading the codes below:

Disable Aiming System (Default)

Enable Aiming System

Charging the Batteries

Once the BC-80X0/C-8000 is powered, you can charge the reader's batteries.

Place the PowerScan™ M8300 into the BC-80X0 cradle or the C-8000 battery charger. The "Reader" LED on the cradle/battery charger turns red.

The battery is completely charged when the "Reader" LED on the cradle/battery charger turns green.

To change the batteries, unscrew the retaining screw and extract the battery pack from the reader handle. Then, insert the new battery pack into the reader handle and tighten the screw. (See the following figures).

WARNING

Do not incinerate, disassemble, short terminals or expose to high temperature. Risk of fire, explosion. Use specified charger only. Risk of explosion if the battery is replaced by an incorrect type. Dispose of the batteries as required by the relevant laws in force.

Setup

PowerScan™ M8300/BC-80X0 Point-to Point Configuration

1. Connect a BC-80X0 cradle to the Host. For installation and connection information see the BC-80X0 Cradle Quick Reference Guide.
2. Charge the PowerScan™ M8300 battery using a BC-80X0 or the C-8000 charger as described in this Quick Reference manual. A full charge takes 4 hours if using an external power supply; while it takes up to 10 hours if supplying power through the USB port.
3. Configure the reader as described in this Quick Reference - **PowerScan™ M8300/BC-80X0 Point-to-Point Setup.**
4. Configure the BC-80X0 cradle. See BC-80X0 Configuration in the BC-80X0 Quick Reference.

or

PowerScan™ M8300/BC-80X0 Stand Alone Configuration

1. Connect a BC-80X0 cradle to the Host. For installation and connection information see the BC-80X0 Cradle Quick Reference Guide.
2. Charge the PowerScan™ M8300 battery using a BC-80X0 or the C-8000 charger as described in this Quick Reference manual. A full charge takes 4 hours if using an external power supply; while it takes up to 10 hours if supplying power through the USB port.
3. Configure the reader as described in this Quick Reference - **PowerScan™ M8300/BC-80X0 Stand Alone Setup.**
4. Configure the BC-80X0 cradle. See BC-80X0 Configuration in the BC-80X0 Quick Reference.

or

PowerScan™ M8300/STAR-System™ Configuration

1. Charge the PowerScan™ M8300 battery using a BC-8000 or the C-8000 charger as described in this Quick Reference manual. A full charge takes 4 hours if using an external power supply; while it takes up to 10 hours if supplying power through the USB port.
2. Configure the reader as described in this Quick Reference **PowerScan™ M8300/STAR-System™ Setup.**

PowerScan™ M8300 Configuration

PowerScan™ M8300/BC-80X0 Point-to-Point Setup

A rapid configuration procedure has been devised for point-to-point applications where a single reader is associated exclusively with its own BC-80X0 base station and where it is not necessary to set the Date and Time parameters.

A special pre-printed bind-address label provided in the BC-80X0 base station package can be used to bind the PowerScan™ M8300 reader to the base station with the address coded on the label. The address is also written numerically on the label to be easily recognized. Valid addresses are in the range from 0000 to 1999. Make sure that all cradles used in the same area have different addresses.

To rapidly configure your point-to-point application:

1. Apply the bind-address label onto the BC-80X0 base station as indicated in the BC-80X0 Cradle Quick Reference Guide.
2. When the BC-80X0 cradle is connected and powered, read the Bind-Address label to pair the PowerScan™ M8300 to the BC-80X0 cradle.
   The green LED on the PowerScan™ M8300 will blink: the reader is ready to be positioned onto the cradle.
3. Firmly position the reader onto the cradle within 10 seconds, a beep will be emitted, signaling that the BC-80X0 cradle has been paired to the PowerScan™ M8300, and the green LED on the reader will go off.

If it ever becomes necessary to change the reader, just read the bind-address label applied to the cradle and position the new reader onto the cradle.

Do not use multiple readers with this configuration method.

4. Configure the BC-80X0 cradle, refer to the "BC-80X0 Quick Reference Guide".

END OF PROCEDURE. YOUR READER IS NOW READY TO READ CODES.

PowerScan™ M8300/BC-80X0 Stand Alone Setup

When the BC-80X0 cradle is connected and powered, configure the PowerScan™ M8300 by reading the following codes in the given sequence and follow the instructions.

NOTE

For the numeric code selection of steps 3, 4, and 5 use the table at the end of this Quick Reference Guide

1. Restore PowerScan™ M8300 Default

2. Enter Configuration

3. Set Date

+

six digits for Day, Month and Year (DDMMYY).

4. Set Time

+

four digits for Hours and Minutes (HHMM).

5. Set Radio Address

+

four digits for the PowerScan™ M8300 Address (from 0000 to 1999).

All readers used in the same area must have different addresses.

6. Exit and Save Configuration

7. Read the Bind code to pair the PowerScan™ M8300 to the BC-80X0 cradle.

   The reader is dedicated to the cradle. Any previously bound reader will be excluded.

   To connect several readers to the same cradle see the following section "Using Multiple Readers with Same Cradle".

   Bind

   The green LED on the PowerScan™ M8300 will blink: the reader is ready to be positioned onto the cradle.

8. Firmly position the reader onto the cradle. Within 10 seconds, a beep will be emitted, signaling that the BC-80X0 cradle has been paired to the PowerScan™ M8300, and the green LED on the reader will go off.

9. Configure the BC-80X0 cradle. Refer to the "BC-80X0 Quick Reference Guide".

END OF PROCEDURE. YOUR READER IS NOW READY TO READ CODES.

Using Multiple Readers with the Same Cradle

If you want to use several readers associated with the same cradle, you must first **Bind** the cradle with one of the readers (see previously described configuration procedure).

Successive readers can be associated with the same cradle by following the configuration procedure substituting the **Bind** command with **Join**.

7. Join

The green LED on the PowerScan™ M8300 will blink: the reader is ready to be positioned onto the cradle. Complete step 8.

END OF PROCEDURE.

All readers associated with the same cradle must have different addresses.

CAUTION

PowerScan™ M8300/STAR-MODEM™ Stand Alone Setup

To configure a PowerScan™ M8300 reader to communicate with STAR-Modem™ in Stand Alone Mode, follow the "PowerScan™ M8300/BC-80X0 Stand Alone Setup" procedure, substituting steps 6 and 7 with those below:

STAR-Modem™ Address

6. Read the code above and the four-digit address of the STAR-Modem™.

Exit and Save Configuration

7.

END OF PROCEDURE. YOUR READER IS NOW READY TO READ CODES.

PowerScan™ M8300/STAR-SYSTEM™ Setup

The following procedure allows configuring a PowerScan™ M8300 reader to communicate with various STAR-System™ devices such as Stargate™ RF base stations:

1. Restore PowerScan™ M8300 Default

2. Enter Configuration

3. Set Date

+

six digits for Day, Month and Year (DDMMYY).

4. Set Time

+

four digits for Hours and Minutes (HHMM).

5. Set the connection according to the length of the codes to be read:

Code Length ≤240 Characters

Code Length >240 Characters
(not for systems with BC-80X0 as Master)

6. Set Radio Address

+

four digits from the Numeric Table for the PowerScan™ M8300 Address
(from 0000 to 1999).

All readers used in the same area must have different addresses.

7. Set First STAR-System™ Address

+

four digits from the Numeric Table in the range 0000 to 1999

8. Set Last STAR-System™ Address

+

four digits from the Numeric Table in the range 0000 to 1999

NOTE

Whenever the system is composed of a single base station, the first and last base station addresses (steps 7 and 8) must have the same value.

9. Exit and Save Configuration

END OF PROCEDURE. YOUR READER IS NOW READY TO READ CODES.

PowerScan™ M8300 Default Configuration

DATA FORMAT

code identifier disabled, field adjustment disabled, code length not transmitted, character replacement disabled

CODE SELECTION

enabled codes

- EAN 8/EAN 13 / UPC A/UPC E without ADD ON
  check digit transmitted, no conversions
- Interleaved 2/5
  check digit control and transmission, variable length code; 4-99 characters
- Standard Code 39
  no check digit control, variable length code; 1-99 characters
- Code 128
  variable length code; 1-99 characters

disabled codes

EAN 128, ISBT128, Code 93, Codabar, pharmaceutical codes, MSI, Code 11, Code 16K, Code 49, GS1 DataBar™ (GS1 DataBar™ includes the following symbologies: GS1 DataBar Omnidirectional, GS1 DataBar Stacked, GS1 DataBar Expanded and GS1 DataBar Limited).

RADIO PARAMETERS

radio protocol timeout = 2 seconds, power-off timeout = 4 hours, transmission mode = one-way, beeper control for radio response = normal, single store disabled, batch mode disabled, find me enabled, radio RX timeout = disable

Technical Features

Electrical Features		
Battery Type	2150 Li-Ion battery pack	
Time of recharge	max. 4 hours with external power supply max. 10 hours with Host power	
Operating autonomy (continuous reading)	60,000 reads (typical)	
Display (Only available with some models)	LCD 4 lines x 16 chars Programmable font and backlight	
Indicators	Good Read LED green Good Read Spot green Beeper	
Laser Features	**M8300**	**M8300-AR**
Power (max) in mW	0.9 mW	1.3 mW
Light Source	VLD in the range between 630~680 nm	
Scan Rate	35 ÷ 5 scans/sec	
Reading Field Width (typical)	see reading tables	
Max. Resolution	0.076 mm (3 mils)	0.19 mm (7.5 mils)
PCS minimum (Datalogic Test Chart)	15%	25%
Scan Angle	42°	13.5° ± 0.7
Laser Safety Class	2 (EN 60825-1 / CDRH)	
Radio Features	**European Models**	**USA Models**
Radio Frequency	433.92 MHz	910 MHz
Bit rate	19200 baud	36800 baud
Range (in open air)	50 m	30 m
System Configuration	BC-80X0	STARGATE™
Max. number of devices per base station	32	255
Max. number of devices in the same reading area	2000	
Environmental Features		
Working Temperature	-20° to +50 °C / -4 to +122 °F	
Storage Temperature	-20° to +70 °C / -4 to +158 °F	
Humidity	90% non condensing	
Drop resistance (on concrete)	2 m	
Protection Class	IP65 (IP64 for models with display)	
Mechanical Features		
Weight (with batteries)	about 400 g (14.10 oz)	
Dimensions	212 x 109 x 71 mm (8.34 x 4.29 x 2.79 in)	
Material	Polycarbonate molded with rubber	

Reading Tables

PowerScan™ M8300

mil	Typical reading distance with good quality codes
5	2.1 - 13.3 cm / 0.8 - 5.2 in
7,5	3.5 - 24.2 cm / 1.4 - 9.5 in
10	2.9 - 42.8 cm / 1.1 - 16.8 in
13	2.3 - 55.1 cm / 0.9 - 21.7 in
20	6.3 - 78.5 cm / 2.5 - 30.9 in
40	2.5 - 97.8 cm / 1.0 - 38.5 in

PowerScan™ M8300 AR

mil	Typical reading distance with good quality codes
7,5	18 - 50 cm / 7.0 - 19.7 in
10	18 - 85 cm / 7.0 - 33.5 in
15	15 - 165 cm / 5.9 - 65.0 in
20	12 - 210 cm / 4.7 - 82,7 in
40	18 - 375 cm / 7.0 - 147.6 in
55	25 - 485 cm / 9.8 in - 15.9 ft
100 (refl. Paper)	1.5 - 12.5 m / 4.9 - 41.0 ft

Numeric Table

0

1

2

3

4

5

6

7

8

9

NOTES

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PowerScan Mxxx; Cordless Bar code Reader

e tutti i suoi modelli
and all its models
et tous ses modèles
und seine Modelle
y todos sus modelos

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This declaration is based upon compliance of the products to the following standards:
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Diese Erklärung basiert darauf, daß das Produkt den folgenden Normen entspricht:
Esta declaración se basa en el cumplimiento de los productos con la siguientes normas:

ETSI EN 301 489-3 v1.4.1, August 2002 : Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9kHz and 40GHz

ETSI EN 300 220-3 v1.1.1, September 2000 : Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25MHz to 1000MHz frequency range with power levels ranging up to 500mW; Part 3: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 60950-1, December 2001 : Information technology equipment - Safety - Part 1 : General Requirements

April 16, 2008